植 物 分 类 学 报 26 (1): 69—73 (1988)
Acta Phytotaxonomica Sinica

无喙兰属植物首次在日本发现

古瀬義[1]　陈心启[2]

关键词 无喙兰属；日本无喙兰；鸟巢兰属

日本无喙兰 新种 图版 1

Archineottia japonica M. Furuse, sp. nov. (sect. Furcilla) —— *Neottia japonica* M. Furuse, MSS.

Species nova *Archineottiae smithianae* (Schltr.) S. C. Chen e Sina similis, a qua labello suboblongo petalis subaequilongo, petalis sepalo intermedio paulo angustioribus vel subaequilatis bene differt.

Herba saprophytica, erecta, luteolo hrunnea, 7.5—27 cm alta, rhizomate abbreviato radices numerosas carnosulas fasciculatas edente. Caulis crassiusculus, teres, apicem versus sparsim papilloso puberulus, vaginis 3—4, 1.5—4 cm longis alte amplectentibus glabris obsessus. Racemus 6—15-florus, 4—6 cm longus, 1—1.5 cm crassus, rhachi papilloso-puberula; bracteae erecto-patentes, oblongo-ovatae, 6—7 mm longae, c. 1.7 mm latae, extus sparsim puberulae, apice mucronatae vel subobtusae, uninerviae, ovario (cum pedicello) subaequilongae vel paulo longiores; flores erecto-patentes, c. 4—5 mm diam.; sepalum intermedium suboblongum, 3.5—4 mm longum, c. 1 mm latum, apice obtusum, uninervium, extus saepe sparsim puberulum; ea lateralia subobliqua, eo intermedio paulo longiora et latiora; petala c. 3.5 mm longa, sepalo intermedio subsimilia, paulo angustiora vel subaequilata, apice obtusa, uninervia, glabra; labellum suboblongum, 3.5—4.5 longum, c. 2 mm latum, horizontaliter patens, ad medium saepe paulo deorsum carvatum, obscure 3—5-nervium, superne basi interdum crassiusculum, margine sparsim papilloso-ciliatum, quarta parte apicali bilobum, lobis subovatis c. 0.7 mm longis medio c. 0.4 mm latis apice plerumque paulo incurvis margine exteriore papilloso-ciliatis, sinu acuto-mucronato; columna erecta, longiuscula, c. 2 mm longa, dorso carina crassa sursum in filamentum distinctum producta; stamen ad apicem dorsi columnae suberectum, filamento c. 0.3 mm longo, anthera oblongo-elliptica erecta c. 0.5 mm longa; rostellum abscens; stigma paulo prorsum, paene discoideum; pollinia duo, pulveo-granulosa, inappendiculata, laxe cohaerentia; ovarium elliptico-ovatum, puberulum, cum pedicello 3—4 mm longo 6—8 mm longum.

Japan: Prefecture Yamanashi, Miniami-tsurn-gun, Nishi-katsurason, Mt. Mitsu-tooga, alt. 1250 m, in broad-leaved deciduous forest, 7 Sept. 1948, Miyoshi Furuse 20144 (PE); Prefecture Nagano, Kami-ina-gun, Jodai-hase-son, alt. 1200 m, on limestone rocky slope in broad-leaved deciduous forest, 4 Sept. 1977, Miyoshi Furuse 12452 (Type, PE).

本新种与中国产的叉唇无喙兰 *A. smithiana* 相近，但本新种唇瓣近矩圆形，与花瓣近等长；花瓣较中萼片稍狭或近等宽，甚易区别。

腐生草本，直立，淡黄棕色，高 7.5—27 cm，具短的根状茎，其上着生多数稍肉质的、成簇的根。茎稍粗，圆柱状，向上端疏生乳突状微柔毛，有 3—4 枚鞘；鞘长 1.5—4 cm，抱

1) 日本栃木县皆川城内 1864；2) 中国科学院植物研究所。

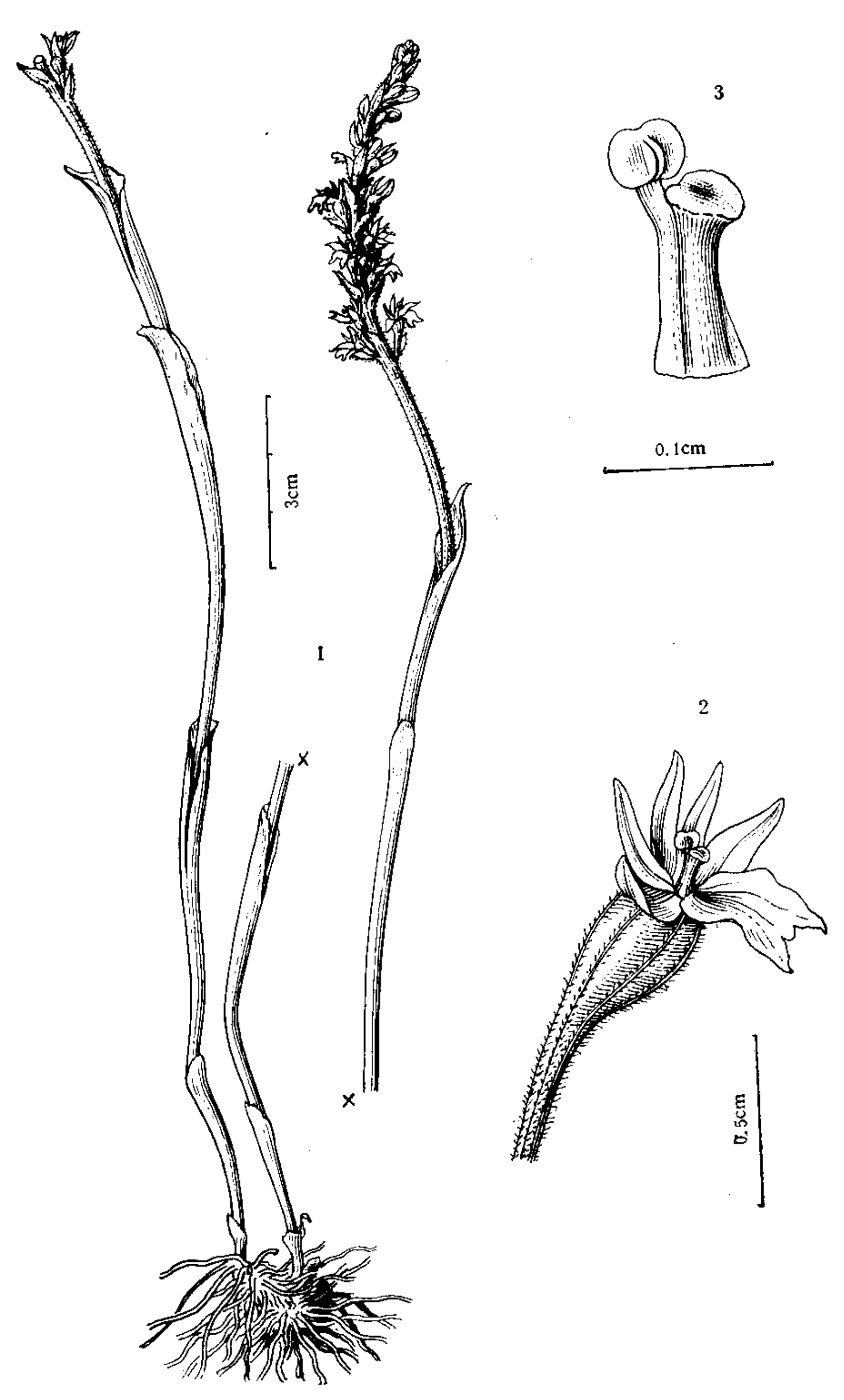


图1 日本无喙兰 *Archineottia japonica* 1. 植株 plant; 2. 花 flower; 3. 蕊柱 column。(冀朝祯绘)

茎，无毛。总状花序具 6—15 朵花，长 4—6 cm，粗 1—1.5 cm，花序轴具乳突状微柔毛；苞片斜立，矩圆状卵形，长 6—7 mm，宽约 1.7 mm，外面疏生微柔毛，先端具短尖或钝，具 1 脉，与子房(连花梗)近等长或略长；花斜立，直径约 4—5 mm；中萼片近矩圆形，长 3.5—4 mm，宽约 1 mm，先端钝，具 1 脉，背面常疏生微柔毛；侧萼片稍斜歪，较中萼片稍长而宽；花瓣长约 3.5 mm，与中萼片近似但稍狭或近等宽，先端钝，具 1 脉，无毛；唇瓣近矩圆形，长 3.5—4.5 mm，宽约 2 mm，水平伸展，靠近中部略向下弯，具不明显的 3—5 脉，上面基部有时稍粗厚，边缘疏生乳突状缘毛，上端 1/4 处 2 裂；裂片近卵形，长约 0.7 mm，宽约 0.4 mm，先端通常稍内弯，外边缘具乳突状缘毛，弯缺处有锐尖头；蕊柱直立，较长，长约 2 mm，背面有粗厚纵脊，向上延伸为明显的花丝；雄蕊位于蕊柱背面顶端，近直立；花丝长约 0.3 mm；花药矩圆状椭圆形，直立，长约 0.5 mm；蕊喙不存在；柱头稍向前倾，近盘状；花粉块 2，粒粉质，无附属物，粘合疏松；子房椭圆状卵形，具微柔毛，连同长 3—4 mm 的花梗长达 6—8 mm。

日本：山梨县，南都留郡，西桂村，三ッ峠山，海拔 1250 m，生于阔叶落叶林中，1948 年 9 月 7 日，古濑義 20144 (PE)；长野县，上伊那郡，长谷村户台，海拔 1200 m，生于阔叶落叶林下石灰岩石砾坡上，1977 年 9 月 4 日，古濑義 12452 (模式标本，PE)。

日本无喙兰是一个特征显著的新种。它系该属首次报告产于日本。两份标本分别于 1948 年与 1977 年采自本州的山梨县与长野县。但由于它的体态十分近似鸟巢兰属 *Neottia*，故一直未引起注意。鸟巢兰属在日本只有 2 种，即凹唇鸟巢兰 *N. papilligera*＝*N. nidus-avis* var. *manshurica* 与尖唇鸟巢兰 *N. asiatica* ＝ *N. acuminata*。仔细的观察表明，本新种的蕊柱完全不同于这两个种以及其他鸟巢兰属植物。它的结构非常简单，只有 1 个顶生的柱头和 1 枚直立的雄蕊。这显然是一种十分原始的蕊柱结构。本文作者之一(陈心启 1979)[1] 正是基于这一重要特征，将鸟巢兰属中 4 个种分出，建立无喙兰属 *Archineottia*，两属蕊柱的区别见下表：

表 1　无喙兰属与鸟巢兰属蕊柱之差异

Table 1　The Difference in Column Structure between *Archineottia* and *Neottia*

属名 Genus	蕊　柱 Column	药床 Clinandrium	蕊喙 Rostellum	柱头 Stigma	花丝 Filament
无喙兰属 *Archineottia*	背面有一条粗纵脊其上端连接于花丝 A thick ridge exists on its back with itsupper and joining the filament	无 Abscent	无 Abscent	顶生 Terminal	明显 Distinct
鸟巢兰属 *Neottia*	背面不具纵脊 No ridge is found on its back	有 Present	硕大 Very large	侧生 Lateral	不明显 Indistinct

本新种无疑应归入无喙兰属，其蕊柱结构与该属已知的 4 个种中的情况极为相似。看来它与中国产的叉唇无喙兰 *A. smithiana* 有较近的亲缘关系，可能也与锡金产的锡金无喙兰 *A. pantlingii* 有类似的亲缘关系。它们均属于叉唇组 Sect. *Furcilla*。但日本无

1) 见本刊 **17**(2)：9—22，1979。

喙兰唇瓣近矩圆形且与花瓣近等长，甚易区别于其余两种。它在日本本州中部发现并不令人感到意外。 它又一次表明该地区与中国中部以及喜马拉雅山区有着植物区系亲缘性。无喙兰属已知有 5 种，分布于从印度西北部、锡金至中国四川、河南、陕西、山西和日本本州 (图 2)。其区别见下面检索表：

1.唇瓣与花瓣十分相似；柱头直立向上(全唇组 Sect. Archineottia)。

 2.萼片矩圆形或狭矩圆形，与花瓣等宽或略宽(中国山西、河南)……………………………1.无喙兰 *A. gaudissartii*

 2.萼片卵状矩圆形或卵形，宽约为花瓣的两倍(印度西北部)……………………………2.印度无喙兰 *A. microglottis*

1.唇瓣先端 2 裂，与花瓣完全不同；柱头稍向前倾(叉唇组 Sect. Furcilla)。

 3.唇瓣近矩圆形，稍长于花瓣或近等长(日本本州)……………………………3.日本无喙兰 *A. japonica*

 3.唇瓣倒卵形或近楔形，明显长于唇瓣。

  4.唇瓣倒卵形，水平伸展；花丝长约为蕊柱的 1/3—1/4 (中国四川、陕西)………… 4.叉唇无喙兰 *A. smithiana*

  4.唇瓣近楔形，上举；花丝长约为蕊柱的 1/2 (锡金)……………………………5.锡金无喙兰 *A. pantlingii*

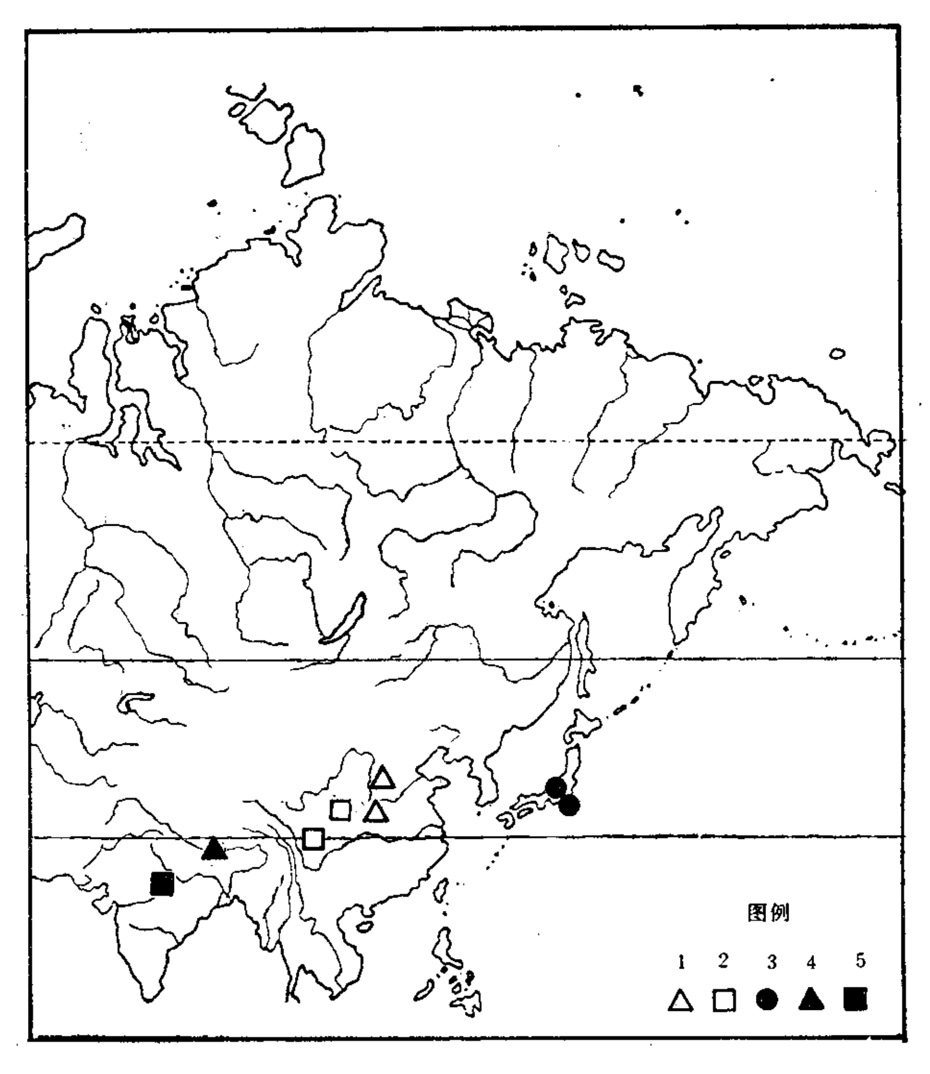


图 2 无喙兰属分布图 Fig. 2 Distribution of *Archineottia* 1. 无喙兰 *A. gaudissartii*; 2. 叉唇无喙兰 *A. smithiana*, 3. 日本无喙兰 *A. japonica*; 4. 锡金无喙兰 *A. pantlingii*; 5. 印度无喙兰 *A. microglottis*。

THE DISCOVERY OF *ARCHINEOTTIA* (ORCHIDACEAE) IN JAPAN

MIYOSHI FURUSE[1)]　CHEN SING-CHI[2)]

Abstract A detailed description is given of the new species *Archineottia japonica* M. Furuse, which is the first member of the genus reported from Japan. Two specimens of this rare plant were collected by the senior author from Yamanashi and Nagano of Honshu respectively. Its habit is very similar to that of *Neottia,* which is represented in Japan by two species, *N. papilligera* (=*N. nidus-avis* var. *manshurica*) and *N. asiatica* (=*N. acuminata*), From them, however, it can be very clearly distinguished by its peculiar column on which nothing is found but a terminal stigma and one erect stamen with rather distinct filament. This is no doubt a very primitive column structure, only found in *Archineottia* and quite different from that in *Neottia* (Table 1).

This Japanese plant is a true *Archineottia,* from which it shows no difference in column structure. It is akin to *A. smithiana* of China, and probably also to *A. pantlingii* of Sikkim, all belonging to the section *Furcilla.* But it differs much from them by the nearly oblong lip almost equal in length to the petals. Its occurrence in central Honshu of Japan is indeed of phytogeographic interest, indicating the floristic connection of this region with central China and the Himalayas. The genus is now composed of five species. A key to them is provided as follows:

1. Lip very similar to the petals; stigma antrorse. (Sect. *Archineottia*)
   2. Sepals oblong or narrowly oblong, as broad as or slightly broader than the petals (Shanxi and Henan of China)……………………**A. gaudissartii** (Hand.-Mzt.) S. C. Chen
   2. Sepals ovate-oblong or ovate, nearly twice as broad as the petals (northwest India) ……………………**A. microglottis** (Duthie) S. C. Chen
1. Lip bilobed at the apex, utterly different from the petals; stigma slightly curved forwards. (Sect. *Furcilla*)
   3. Lip nearly oblong, slightly longer than or as long as the petals (Honshu of Japan) ……………………**A. japonica** M. Furuse
   3. Lip obovate or nearly cuneate, much longer than the petals.
      4. Lip obovate, horizontally spreading; free filament 1/3—1/4 as long as the column (Sichuan and Shaanxi of China) ……………………**A. smithiana** (Schltr.) S. C. Chen
      4. Lip nearly cuneate, pointing upwards; free filament about 1/2 as long as the column (Sikkim) ……………………**A. pantlingii** (Duthie) S. C. Chen

Key words *Archineottia*; *A. japonica*; *Neottia*

1) Minagawa-joonai 1864, Tochigi, Tochigi-ken, Japan.
2) Institute of Botany, Academia Sinica, Beijing, China.